

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARIO CESATI

Appeal No. 96-2520
Application 07/891,852¹

ON BRIEF

¹ Application for patent filed June 1, 1992. According to appellant, the application is a continuation-in-part of Application 07/521,140, filed May 8, 1990, abandoned.

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Before HAIRSTON, KRASS and FLEMING, *Administrative Patent Judges*.

FLEMING, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 5 and 7 through 12. Claim 6 has been canceled. Appellant has filed an after final amendment amending claim 1 and canceling claim 3 which has been entered,² thereby these amended claims are properly before us for our consideration.

Appellant's invention relates to a high power diaphragm electro-acoustical transducer for transforming electrical signals into acoustical signals. On page 10 of the specification, Appellant discloses that the invention is characterized such that each portion of the diaphragm of the transducer is made of a very good heat conductive material, preferably an

² In a letter dated January 17, 1996, the Examiner stated the applicant's amendment filed November 21, 1995 has been entered. We note that Appellant filed another after final amendment on December 26, 1995 which appears to be a duplicate of the November 21, 1995 amendment.

aluminum alloy with a high magnesium content. On pages 10 and 11 of the specification, Appellant discloses that Figure 1 shows the diaphragm 1 having a central cap 10, a cylindrical portion 11, a waved portion 15 and a peripheral ring element 16.

Independent claim 1 is reproduced as follows:

1. A diaphragm electric-acoustic transducer, of the movable-coil electrodynamic type, comprising a transducer single piece diaphragm made of a high heat conductivity metal material and having a thickness from 0.04 to 0.07 mm, said diaphragm being anchored to a metal mass forming a support unit and resiliently suspended on and coupled to said supporting unit, said diaphragm including a corrugated portion providing a resilient suspension system, said diaphragm also including a peripheral ring portion engaged under a top flat portion of said supporting unit and a central region forming a cylindrical portion, said cylindrical portion supporting a movable electrically conductive coil which closely contacts said high heat conductivity metal material of said diaphragm so that, as said transducer is operated, said coil transmits to said diaphragm heat generated by an acoustical current passing through said coil to quickly and efficiently dissipate said heat by irradiation and conduction through said metal mass;

a rubber damper element adapted to dampen said diaphragm to change a residence characteristic of said transducer.

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The references relied on by the Examiner are as follows:

Graham	2,392,143	Jan. 1, 1946
Sotome (Sotome '307)	3,496,307	Feb. 17, 1970
Sotome (Sotome '124)	3,665,124	May 23, 1972
Tsukagoshi et al. (Tsukagoshi)	4,135,601	Jan. 23, 1979
Leontiev (Russian)	432,693	June 15, 1974

Claims 4, 5 and 12 stand rejected under 35 U.S.C. § 102 as being anticipated by Sotome '124. Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sotome '124 and

Sotome '307. Claims 1, 2 and 11 stand rejected under 35 U.S.C.

§ 103 as being unpatentable over Sotome '124 and Tsukagoshi. Claims 1, 2 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Leontiev, Sotome '124 and Tsukagoshi.

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Claims 7, 8 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sotome '124 and Graham.³

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the briefs⁴ and the answers⁵ for the respective details thereof.

³ The Examiner has made this new ground of rejection in the Examiner's answer.

⁴ Appellant filed an appeal brief on May 19, 1995. Appellant filed a reply appeal brief on October 4, 1995. We will refer to this reply appeal brief as the first reply brief. The Examiner stated in a supplemental Examiner's answer mailed November 21, 1995 that the reply brief has been entered. Appellant filed another reply appeal brief on December 26, 1995. We will refer to this reply appeal brief as the second reply brief. The Examiner stated in a letter mailed February 21, 1996 that the second reply brief has been entered and considered but no further response by the Examiner is deemed necessary. In a later supplemental Examiner's answer mailed December 12, 1996, the Examiner states the second reply brief will not be entered. Because the Examiner has already entered the second reply brief, we will consider the second reply brief entered. Appellant filed a supplemental reply brief on February 11, 1997. The Examiner stated in a letter mailed March 26, 1997 that the second reply brief has been entered and considered but no further response by the Examiner is deemed necessary.

⁵ The Examiner responded to the brief with an Examiner's answer, dated August 8, 1995. We will refer to the Examiner's answer as simply the answer. We note that the answer contains a new ground of rejection rejecting Claims 7, 8 and 10 which stand rejected under 35 U.S.C. § 103 as being unpatentable
(continued...)

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claims 4 and 5 are anticipated under 35 U.S.C. § 102 by Sotome '124. However, we do not agree with the Examiner that claim 12 is properly rejected under 35 U.S.C.

§ 102.

It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See In re King**, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and **Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.**, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). "Anticipation is established only when a single prior art reference

⁵(...continued)
over Sotome '124 and Graham. The Examiner responded to the first reply brief with a supplemental Examiner's answer, mailed November 21, 1995. We will refer to the supplemental Examiner's answer as the first supplemental answer. The Examiner mailed another supplemental Examiner's answer on February 11, 1997. We will refer to this supplemental Examiner's answer as the second supplemental answer.

discloses, expressly or under principles of inherency, each and every element of a

claimed invention." ***RCA Corp. v. Applied Digital Data Systems, Inc.***, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.), *cert. dismissed*, 468 U.S. 1228 (1984), *citing Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983).

Appellant argues on pages 6 through 8 of the brief that Sotome '124 fails to teach an integral metal diaphragm. Appellant argues that because Sotome '124 teaches in Figure 4 that elements 12 and 14 as well as a project rim portion holding the coil 17 all meet at a single point, it would be difficult, if not impossible, to make an integrally formed metal diaphragm. Appellant argues that although Sotome teaches integrally forming the diaphragm shown in Figure 4, this teaching is only for the embodiments of diaphragms made of paper or plastic. Appellant argues that any method of producing integrally formed metal diaphragms, as shown in Figure 4, where three separate sheets are integrally connected

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at a single point, would produce a metal diaphragm that would not have the proper rigidity, weight and mechanical strength parameters.

As pointed out by our reviewing court, we must first determine the scope of the claim. "[T]he name of the game is the claim." ***In re Hiniker Co.***, 150 F.3d 1362, 1369, 47 USPQ2d 1523,

1529 (Fed. Cir. 1998). Moreover, when interpreting a claim, words of the claim are generally given their ordinary and accustomed meaning, unless it appears from the specification or the file history that they were used differently by the inventor. ***Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.***, 15 F.3d

1573, 1577, 27 USPQ2d 1836, 1840 (Fed. Cir. 1993). Our reviewing court stated in ***In re Zletz***, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) that "claims must be interpreted as broadly as their terms reasonably allow."

We note that Appellant's claim 4 recites "all of said diaphragm . . . being formed in a single integral piece."

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Appellant has not defined "integral" in the specification or in the file history differently from the term's ordinary meaning. The dictionary meaning of integral is "made up of parts forming a whole."⁶

Upon a review of Sotome '124, we find that Sotome '124 teaches in column 2, lines 16-33, that Figure 4 illustrates a diaphragm 11. In the same column, lines 33-36, Sotome '124 teaches the diaphragm 11 is integrally formed. Finally, Sotome

'124 teaches that the diaphragm may be made of metal film such as aluminum (column 2, lines 57-59). We note that Figure 4 shows that the diaphragm is made up of parts forming a whole and thereby integrally formed. Therefore, we find that Sotome teaches a diaphragm being formed in a single integral piece as recited in Appellant's claim 4.

We have considered Appellant's argument that it would be difficult, if not impossible, to make the diaphragm

⁶ **Webster's New World Dictionary**, Second College Edition, 1972, page 732 (copy enclosed).

as taught by Sotome '124. However, every patent is presumed valid. 35 U.S.C. § 282. It is the burden of the Appellant to come forward with evidence, affidavits or declarations to rebut the presumption of operability of a patent by a preponderance of the evidence. ***In re Sasse***, 629 F.2d 675, 681, 207 USPQ 107, 111 (CCPA 1980). We note that Appellant has not come forward with any evidence to support Appellant's argument and thereby Appellant has not met this burden of overcoming the Examiner's ***prima facie*** case. Therefore, we will sustain the Examiner's rejection of claim 4.

In regard to the rejection of claim 5 under 35 U.S.C. § 102, Appellant argues on page 3 of the first reply brief that Sotome '124 fails to teach that the "peripheral ring portion is attached inside said support unit" as recited in

claim 5. In the first supplemental answer, the Examiner argues

that Sotome '124 teaches in Figure 5 that the peripheral ring portion is attached inside the support unit 19. Upon review

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of Sotome '124, we find that Sotome '124 in Figure 5 and column 2, lines 39-50, teaches the limitations as recited in Appellant's claim 5, and thereby we will sustain the Examiner's rejection of claim 5.

In regard to the rejection of claim 12 under 35 U.S.C. § 102, Appellant argues on page 8 of the brief that Sotome '124 fails to teach that a "single piece diaphragm is a single sheet of said high heat conductivity metal" as recited in claim 12. Upon our review of Sotome '124, we fail to find that Sotome '124 teaches that the diaphragm is formed from a single sheet of metal. Therefore, we will not sustain the Examiner's rejection of claim 12.

Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Sotome '124 and Sotome '307. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan

contained in such teachings or suggestions. *In re Sernaker*,
702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

Appellant argues on pages 9 and 10 of the brief that there is no element in Sotome '307 which defines a profile to provide a small volume compression chamber for increasing the stiffness of the diaphragm. On page 4 of the first reply brief, Appellant argues that Sotome '307 filling material 7 which is cotton or felt, would not be considered by a person of ordinary skill in the art to be a solid member or be able to provide a small volume compression chamber.

In Figure 2, we find that Sotome '307 does teach a solid member 17 made of a non-magnetic material and positioned between said cap portion 12 of the diaphragm and the pole portion 15 where the solid member defines a profile at a small distance to provide a small volume compression chamber for increasing a stiffness of the diaphragm (the volume on the right and left of the solid member 17) as recited in Appellant's claim 9. Furthermore, we find that Sotome '307 teaches in column 2, lines 43-45, that the member 17 is made of foamed rubber or foamed plastic material which is a

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solid member. Therefore, we will sustain the Examiner's rejection of claim 9.

Claims 1, 2 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sotome '124 and Tsukagoshi. Claims 1,

2 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Leontiev, Sotome '124 and Tsukagoshi. In the second reply brief, Appellant argues that neither Sotome '124, Tsukagoshi nor Leontiev teaches or suggests the use of rubber for a damper as recited in Appellant's claim 1.

We note that Appellant has amended claim 1 in the after final amendment by adding "a rubber damper element adapted to dampen said diaphragm to change a resonance characteristic of said transducer." We agree that neither Sotome '124, Tsukagoshi nor Leontiev teaches or suggests the use of rubber for a damper as recited in Appellant's claim 1. We note that

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the Examiner states in the second supplemental answer that Yamazaki, U.S. Patent No. 4,752,963, teaches a damper made of rubber but has not applied this reference in the rejection.

Our reviewing court has stated that where a reference is relied on to support a rejection, whether or not in a minor capacity, there would appear to be no excuse for not positively including the reference in the statement of the rejection. **In**

re Hoch, 428 F.2d 1341, 1342, 166 USPQ 406, 407 (CCPA 1970).

We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior

art reference or shown to be common knowledge of

unquestionable demonstration. Our reviewing court requires

this evidence in order to establish a **prima facie** case. **In re**

Knapp-Monarch Co.,

296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); **In re Cofer**, 354

F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966). Therefore,

we will not sustain the Examiner's rejection of claims 1, 2 and 11.

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Claims 7, 8 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Sotome '124 and Graham. At the outset, we note that Appellant states on pages 1 and 2 of the brief that the claims do not stand or fall together and that the "Arguments" section of the brief provides reasons why the claims do not stand or fall together. However, we note that Appellant only argues claims 7, 8 and 10 as a single group in the first and second reply briefs. 37 CFR § 1.192(c)(7) (July 1, 1995) **as amended at** 60 Fed. Reg. 14518 (March 17, 1995), which was controlling at the time of Appellants' filing the brief, states:

For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in

the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences

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in what the claims cover is not an argument
as to why the claims are separately
patentable.

We will, thereby, consider Appellant's claims 7, 8 and 10 as
standing or falling together and we will treat claim 10 as a
representative claim of that group.

On page 5 of the first reply brief, Appellant argues
that there is no teaching or suggestion of a connection
between

a coil and diaphragm in Graham which quickly and efficiently
dissipates heat generated by a coil. On page 5 of the second
reply brief, Appellant argues that there is no teaching or
suggestion in Graham of the connection between the voice coil
and diaphragm to be a heat conductor. Appellant further
argues that Sotome teaches away from using a connection that
is a heat conductor since Sotome teaches that the connection
may be cemented into the channel 11 with cement. Appellant
argues on page 6 of the second reply brief that most cements
are considered to be heat insulators. Appellant further
argues that Graham teaches a resinous cement which is not an

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efficient conductor of heat. Appellant does agree that Graham does not require resinous

cement but Graham's only teachings is a cement which is more of a heat insulator than a heat conductor.

Turning to Appellant's claim 10, we fail to find that the scope of the claim requires a heat conductor cement as argued by Appellant. Appellant's claim 10 recites "an electrically conductive coil attached to said cylindrical portion of said diaphragm, said coil transmits to said diaphragm heat generated by an acoustical current passing through said coil to quickly and efficiently dissipate heat generated by said coil through said metal diaphragm to said metal support unit." Appellant's claim 10 does not require an attachment means that transmit heat to the diaphragm. Appellant's claim 10 only requires that the coil transmit heat to the metal diaphragm.

Sotome '124 and Graham teach a coil made of conductive material that would transfer heat quickly and

efficiently. We find that Sotome '124 teaches in Figures 4 and 5 that the coils 17 and 18 are in direct contact with the diaphragm. In column 2, lines 24-29, Sotome '124 states that the coils 17 and 18 are attached to the diaphragm. We fail to find that Sotome '124 teaches that the coils are cemented to the diaphragm or that the attachment is done in such a way as to prevent heat transfer to the diaphragm. To the contrary, we find that Figures 4 and 5, showing the direct contact of the coils with the diaphragm, would have led those skilled in the art to attach the coil such that heat would be transferred to the diaphragm.

In addition, Appellant's claimed terms "quickly and efficiently" are relative terms which do not require specific quantitative measurements. Even if a method of using cement to attach the coils would slightly interfere with the heat transfer, such a transfer is still within the scope of the claimed relative terms, "quickly and efficiently."

Finally, Appellant has not provided us with any evidence that the Graham attachment in which the coil is first wound around the diaphragm and then cemented, as taught on

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page 1, right-hand column, lines 46-49, would interfere with the heat transfer to the diaphragm. Because the Graham method of attachment would result in the coils being in direct contact with the diaphragm, the coils would transfer heat to the diaphragm quickly and efficiently as claimed by Appellant.

In view of the foregoing, the decision of the Examiner rejecting claims 4 and 5 under 35 U.S.C. § 102 and rejecting claims 7 through 10 under 35 U.S.C. § 103 is affirmed; however, the decision of the Examiner rejecting claims 1, 2, 11 and 12 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON)
Administrative Patent Judge)
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)
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BOARD OF

PATENT

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	ERROL A. KRASS)	APPEALS AND
	Administrative Patent Judge)	
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)	
	MICHAEL R. FLEMING)	
	Administrative Patent Judge)	

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McGlew and Tuttle, P.C.
Scarborough Station
Scarborough, NY 10510-0827